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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/822,148	04/08/2004	Peidong Yang	UC03-392-2	1159
8156	7590	12/02/2005	EXAMINER	
JOHN P. O'BANION O'BANION & RITCHEY LLP 400 CAPITOL MALL SUITE 1550 SACRAMENTO, CA 95814			DICKEY, THOMAS L	
			ART UNIT	PAPER NUMBER
			2826	

DATE MAILED: 12/02/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/822,148

Applicant(s)

YANG ET AL.

Examiner

Thomas L. Dickey

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 10/24.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,5-15,57-60,69-79 and 100-109 is/are pending in the application.
- 4a) Of the above claim(s) 15,57-60,69-79 and 100-109 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 and 5-14 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 April 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

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## **DETAILED ACTION**

1. The preliminary amendment filed on 04/08/2004 has been entered.
2. The amendment filed on 10/24/05 has been entered.

### ***Election/Restriction***

3. Applicant's election without traverse of the embodiment shown in figures 4-17, claims 1 and 5-14 readable thereon, in the Paper filed 10/24/05, is acknowledged.

### ***Oath/Declaration***

4. The oath/declaration filed on 08/23/2004 is acceptable.

### ***Drawings***

5. The formal drawings filed on 04/08/2004 are acceptable.

### ***Priority***

6. Acknowledgement is made of applicant's claim for domestic priority under 35 U.S.C. 119(e), through provisional application 60/116,622 filed 04/08/2003.

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***Information Disclosure Statement***

7. If applicant is aware of any relevant prior art, he/she requested to cite it on form **PTO-1449** in accordance with the guidelines set forth in M.P.E.P. 609.

***Claim Objections***

8. Claim 5 is not objected to, per se, however, it may have been applicants' intent that the element introduced in claim 5 as "a nanotube material" be identical to the element introduced in claim 1 as "a non-carbon, hydrophilic material." If this is the case, the material should not be re-introduced with the article "a," but rather referred back to with the article "the." Furthermore, if the material is identical applicant must use the same name to refer to it. For the time being it will be assumed that applicants intended to claim the use of "a nanotube material" (a separate material) in the making of "a non-carbon, hydrophilic material."

***Claim Rejections - 35 USC § 102***

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

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Claims 1 and 5-14 are rejected under 35 U.S.C. 102(e) as being anticipated by DENNIS ET AL. (2004/0076681).

Dennis et al. discloses a nanodevice (a half cell, <sup>note</sup> ~~not~~ figure 4 and paragraph 0136) having a fluidic nanotube as a functional component, said fluidic nanotube comprising  
Dennis et al. discloses a nanodevice (a half cell, note figure 4 and paragraph 0136) having a fluidic nanotube as a functional component, said fluidic nanotube comprising a tubular member having first and second ends, and an inner bore, said tubular member and inner bore being disclosed in Dennis et al. as a "hollow (innerly boring) tubular body" with two ends, note paragraphs 0021-0022, between said first and second ends; said tubular member having a non-porous inner wall; said tubular member comprising silica (note paragraph 0065); which is a non-carbon, hydrophilic material. Note figures 1,2,4, and paragraphs 0021-0022,0065,0074-0075, and 0136 of Dennis et al. Note that applicants admit that silica is inherently hydrophilic at page 3 paragraph 0013 of their application.

The applicant's claims 5-13 do not distinguish over the Dennis et al. reference regardless of the process used to form said (fluidic) nanotube, because only the final product is relevant, not the recited process of forming said nanotube by steps comprising forming a single-crystalline core material comprising a material selected from the group of materials consisting essentially of zinc oxide (ZnO), silicon (Si), gallium nitride (GaN), germanium (Ge), silver (Ag), gold (Au), group II-VI materials, group III-V materials, elemental group IV materials, and metals, and comprising a

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sacrificial template for said nanotube; depositing a single-crystalline nanotube material comprising a material selected from the group of materials consisting essentially of GaN, Si, GaAs, CdSe, GaP, InP, Ge, InAs, Group II, III, IV, V, and VI materials including quaternaries and tertiaries, as well as oxides, SiO, GaO, InO and other insulating materials, elemental metals, and polymers over said core material, wherein said core material has ends and a side surface; and wherein said nanotube material is deposited on said side surface to form a cylindrical sheath through which said core material extends, and wherein the material selected for said nanotube material has a sufficiently similar crystalline structure and lattice constant as the material selected for said core material to allow epitaxial growth of said nanotube material on said core material; and removing said core material while said core material is sacrificed.

Note that a “product by process” claim is directed to the product per se, no matter how actually made. In re Hirao, 190 USPQ 15 at 17 (footnote 3). See also In re Brown, 173 USPQ 685; In re Luck, 177 USPQ 523; In re Fessmann, 180 USPQ 324; In re Avery, 186 USPQ 161; In re Wertheim, 191 USPQ 90 (209 USPQ 554 does not deal with this issue); and In re Marosi et al., 218 USPQ 289, all of which make it clear that it is the patentability of the final product per se which must be determined in a “product by process” claim and not the patentability of the process, and that an old or obvious product produced by a new method is not patentable as a product, whether claimed in “product by process” claims or not. Note that applicant has the burden of proof in such cases, as the above caselaw makes clear. See also MPEP 706.03(e).

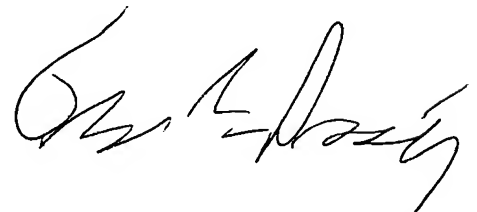
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***Conclusion***

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thomas L Dickey whose telephone number is 571-272-1913. The examiner can normally be reached on Monday-Thursday 8-6.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nathan J Flynn can be reached on 571-272-1915. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



**Thomas L. Dickey  
Patent Examiner  
Art Unit 2826  
10/05**